

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED  
TRANSVERSELY, EXCEPT THE OUTSIDE 50 mm OF GIRDER,  
WHICH SHALL BE TROWEL FINISHED.

PRESTRESSING STRANDS SHALL BE 13 mm  $\phi$  -  
7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH  
OF 1860 MPa AND SHALL BE FLUSH WITH THE ENDS OF  
THE GIRDER.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE  
"STEEL DIAPHRAGM" SHEET.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #13 STIRRUPS IS FOR GRADE 420 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #13 STIRRUPS, 2 OPTIONS ARE AVAILABLE:

1. USE ASTM A706M, GRADE 420 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.
2. USE ASTM A615M, GRADE 300 REINFORCEMENT AND A MODIFIED STIRRUP SPACING SUBMITTED TO AND APPROVED BY THE STRUCTURES DEVELOPMENT SECTION.

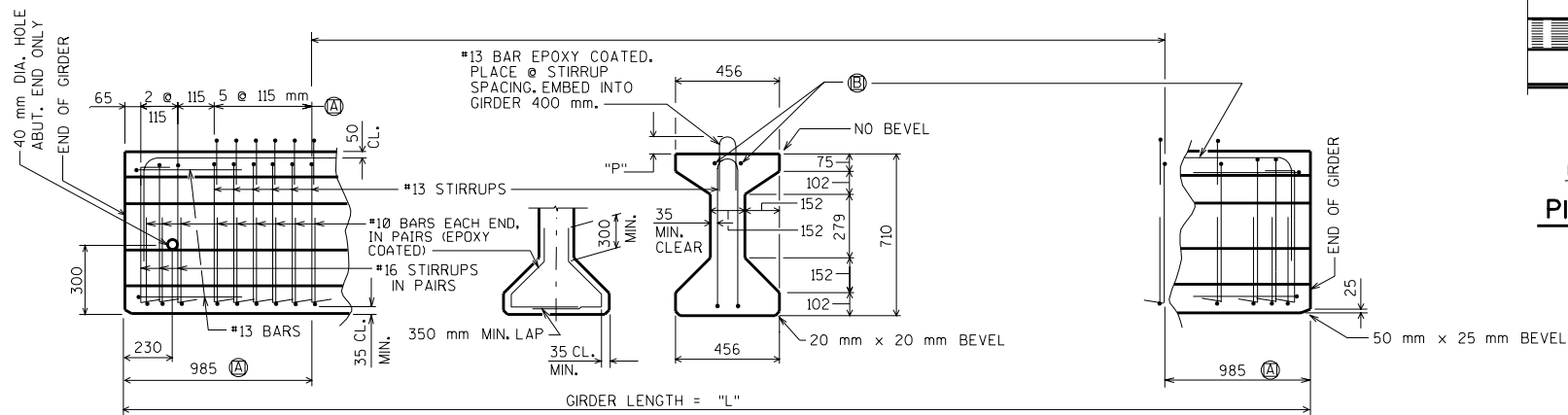
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) MAY BE  
SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL  
OF THE STRUCTURES DEVELOPMENT SECTION

WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF  
ASTM A497.



Ⓐ DETAIL TYP. AT EACH END

Ⓑ 2-BARS BEND DOWN 16 BAR DIA. AT ENDS



The diagram illustrates the bond breaker detail for a prestressed concrete girder. It shows a cross-section of the girder with multiple strands. The left end is labeled "END OF GIRDER". A vertical line indicates the start of the debonding process. Two horizontal arrows indicate the "DEBONDING LENGTH FOR TWO OUTSIDE STRANDS" and "DEBONDING LENGTH FOR TWO INSIDE STRANDS". A label "OF STRANDS" points to the strands themselves.

Diagram illustrating the geometry and dimensions of a draped strand girder. The diagram shows a cross-section of the girder with a draped strand profile. Key dimensions and points are labeled:

- CENTER OF GRAVITY OF DRAPED STRANDS**: Indicated by a vertical line from the top of the strand to the center of gravity.
- SYM. ABOUT MIDSPAN OF GIRDER**: Indicated by a vertical dashed line representing the axis of symmetry.
- HOLD DOWN POINT**: The point where the strand is held down, located at a distance  $a^*$  from the left end.
- END OF GIRDER**: The left end of the girder.
- BOTTOM OF GIRDER**: The bottom edge of the girder.
- Dimensions**:
  - $a^*$ : Distance from the end of the girder to the hold down point.
  - $b^*$ : Distance from the hold down point to the center of gravity.
  - $c^*$ : Distance from the center of gravity to the bottom of the girder.
  - $(0.25 L)$ : Distance from the center of gravity to the midspan of the girder.

Diagram illustrating the dead load deflection of a girder. The diagram shows the top of the girder before the slab is poured (lower curve) and the top of the girder after the slab, sidewalks, and parapets are poured (upper curve). The difference between the two curves represents the dead load deflection.

IF 35 mm MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY BRIDGE OFFICE FOR HAUNCH HEIGHTS OVER 100 mm.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT  $\frac{1}{4}$  OF SUBSTRUCTURE UNITS  
& AT 0.25 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS  
PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE  
- TOP OF GIRDER ELEVATION  
+ DEAD LOAD DEFLECTION  
- SLAB THICKNESS  
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= HAUNCH HEIGHT 'T'

## UNDRAPED PATTERN

Diagram illustrating the cross-section of a prestressed concrete girder with dimensions and annotations:

- Dimensions:**
  - Top flange width: 25
  - Web width: 53
  - Bottom flange width: 53
  - Top flange thickness: 4 SPA. @ 50 mm
  - Web height: 50
  - Bottom flange thickness: 50
  - Bottom flange width: 7 SPA. @ 50 mm
- Annotations:**
  - ALL PATTERNS ARE SYM. ABOUT C/GIRDER
  - FOR DRAPED PATTERN ONLY DRAPE ALL STRANDS ON THESE TWO LINES
  - TOTAL NO. OF STRANDS: 00 - 0000
  - TOTAL INITIAL PRESTRESS FORCE IN KN.

\* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

[illegible]

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|---|------|----------|--|----------|-------------|
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| NO.   | DATE | REVISION |  |          | BY          |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION<br>STRUCTURES DESIGN SECTION |      |          |  |          |             |
| STRUCTURE   |      |          |  |          |             |
| CONST. SPEC.  |      | 1996     |  | DRAWN BY | PLANS CK'D. |
| 710 mm PRESTRESSED GIRDER DETAILS   |      |          |  |          | SHEET       |